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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/768,179	02/02/2004	David H. Eppes	64965-173	3662

7590 03/22/2005  
MCDERMOTT, WILL & EMERY  
600 13th Street, N.W.  
Washington, DC 20005-3096

EXAMINER
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NHU, DAVID

ART UNIT	PAPER NUMBER
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2818

DATE MAILED: 03/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	Application No. 10/768,179	Applicant(s) EPPES, DAVID H.	
	Examiner David Nhu	Art Unit 2818	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 February 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 1-8 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 9-12, 14-18 and 20 is/are rejected.
- 7) ☒ Claim(s) 13 and 19 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |



## **DETAILED ACTIONS**

### ***Election/Restrictions***

Applicant's election of Group II (Claims 9-20) is acknowledge. Claims 9-20 are remained for examination. Accordingly, claims 1-8 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

### ***Drawings***

1. Submit new figures 1-3 by a computer drawing.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 9-12, 14-15, 16-18, 20, are rejected under U.S.C 103(a) as being unpatentable Background of Invention (BOI) in view of Adkisson et al (6,653,710 B2).

**Regarding claim 9**, BOI, (see pages 1-2), teaches a semiconductor device comprising: a main die area containing functional circuitry; a scribe line monitor area circumferentially surrounding the main die area (see page 1, lines 3-6).

BOI fails to teach stress relief element in the scribe line monitor area.

However, Adkisson, (see figures 1-5, col. 4, lines 48-64, col. 6, lines 1-7), teaches stress relief element in the scribe line monitor area.

**Regarding claim 16**, BOI, (see pages 1-2), teaches a semiconductor arrangement comprising: a main die area; a surrounding area circumferentially surrounding the main die area (see page 1, lines 3-6).

BOI fails to teaches crack stop elements in the surrounding area.

However, Adkisson, (see figures 1-5, col. 4, lines 48-64, col. 6, lines 1-44), teaches crack stop in the surrounding area.

Regarding claims 10-12, 14-15, 17-18, 20, BOI, pages 1-2, Adkisson, figures 1-5, col. 1-8, also teach the scribe line monitor area includes at least a first metal layer, a dielectric layer on the first metal layer, and a second metal layer on the first dielectric layer; the stress relief elements include dummy vias/holes 22, 26 in the scribe line monitor; wherein the dielectric layer is a low k-dielectric layer 24; wherein at least one of the dummy vias/holes is connected between one of the metal layer and one of the second metal layer ; wherein the scribe line monitor area includes a saw lane, the dummy vias/holes being located between the saw lane and the main die area; the crack stop elements include dummy vias/holes (see figure 4).

It would have been obvious to one having ordinary skill in the art at the time of the present invention to apply the teachings of Adkisson into the method of BOI as both are related to the same subject matter of providing a semiconductor device/IC and other connection arrangements which include die/fuse elements by using low k-dielectric constant material layer.

***Allowable Subject Matter***

4. Claims 13, 19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Claims 13,19 include allowable subject matter since the prior made of record and considered pertinent to the applicant's disclosure does not teach or suggest the claimed limitations.

Because BOI and Adkisson do not teach each of the first and second metal layers including non-functional metal tiles.

**Conclusion**

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Greer'681, Tsai'296, Guillot'618, Inoue'261, Chen'924 are cited as of interest.

7. A shortened statutory period for response to this action is set to expired 3 (three) months from the date of this letter. Failure to respond within the period for response will cause the application to become abandoned (see 710.02 (b)).

8. Any inquiry concerning this communication on earlier communications from the examiner should be directed to David Nhu, (571)272-1792. The examiner can normally be reached on Monday-Friday from 7:30 AM to 5:00 PM. The examiner's supervisor, David Nelms can be reached on (571)272-1787.

*The fax phone number for the organization where this application or proceeding is assigned is (703)872-9306.*

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

*Information regarding the status of an application may be obtained from the patent application information retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).*

David Nhu



March 16, 2005